

WHAT IS CLAIMED IS:

1. A three-dimensional image display method

5 comprising

detecting a position of a light source

comparing the position of the light source and a virtual position of a display object in a three-dimensional image

to obtain a relative positional relation therebetween; and

10 shading in the three-dimensional image.

2. The method according to claim 1, further comprising

detecting lightness of the light source.

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3. A three-dimensional image display method

comprising

20 detecting positions of a plurality of light sources

comparing each of the positions of the light sources and a virtual position of a display object in a three-dimensional image to obtain relative positional relations therebetween;

and

25 shading in the three-dimensional image.

4. The method according to claim 1, further comprising obtaining a position of a single virtual light source, which represents the plurality of light sources,

5 wherein in the comparing step, the position of light source and the virtual position of the display object in the three-dimensional image to obtain the relative positional relations therebetween.

10 5. A three-dimensional image display device comprising:

a detector which detects a position of a light source
an image process unit configured to compare the position
of the light source and a virtual position of a display object
15 in a three-dimensional image to obtain a relative positional
relation therebetween, and to shade in the three-dimensional
image.

6. A three-dimensional image display device
20 comprising:

a plurality of detectors which detects a position of
a light source
an image process unit configured to compare the position
of the light source and a virtual position of a display object
25 in a three-dimensional image to obtain a relative positional

relation therebetween, and to shade in the three-dimensional image.

7. The device according to claim 5, further comprising:
5 a display surface configured to display the three-dimensional image, wherein:

the detector is disposed on at least one of the display surface and a surface adjacent to the display surface.

10 8. The device according to claim 5, further comprising:
a display surface configured to display the three-dimensional image, wherein:

the detector is disposed to be adjacent to the display surface.

15 9. The device according to claim 5, wherein the detector is disposed at a position where the detector which detects the light source from the light in the same direction as at least one of a display direction of the three dimensional 20 image and a direction in which the three-dimensional image is observed.

10. The device according to claim 5, wherein:
the detector includes three-primary-colors detection
25 means for adding colors to the shade

11. A light direction detection device comprising:
a light detection array disposed on a substrate; and
a discontinuous light shielding member standing
5 perpendicularly to the substrate.

12. The device according to claim 11, wherein the light
shielding member has a bar shape.

10 13. The device according to claim 11, wherein:
the light shielding member includes a plurality of
portions; and
one of the portions is different from another of the portions
in thickness.

15 14. The device according to claim 11, wherein:
the light shielding member includes a plurality of
portions; and
one of the portions is made of a different medium from
20 that of another of the portions.

15 The device according to claim 11, wherein an incident
direction of incident light and an incident angle of the incident
light are detected on the basis of number of shadows of the
25 light shielding member from the root of the light shielding

member and a position of a front end portion of the shadows.